THE EFFECT OF MAKE A MATCH LEARNING MODEL ON LEARNING RESULTS OF AREA OF SQUARE, RECTANGLE AND TRIANGLE CLASS I V SDN 48 HULONTALANGI GORONTALO CITY

Samsiar Rivai ,
Elementary School Teacher Education,
Faculty of Education, Gorontalo State University
samsiarrivai@gmail.com

Martianty Nalole,
Elementary School Teacher Education,
Faculty of Education, Gorontalo State University

Ingky Oktaviana Ahmad
Elementary School Teacher Education,
Faculty of Education, Gorontalo State University

ABSTRACT
The purpose of this study was to determine the effect of learning models make a match the learning outcomes spacious square, rectangular and triangular kel as I V SDN 48 Hulontalangi city of Gorontalo. Sampling was done using saturated sampling technique with a total of 40 students consisting of 20 students in the experimental class and 20 students in the control class. Data collection techniques include observation, tests and documentation. The data analysis technique used is validity test, item difficulty level test, discriminatory power test, reliability test, data normality test, homo test. Date homogeneity and hypothesis testing.
The results of the study obtained t $_{count}$ of 2,506 and the average value of t $_{table}$ of 1,686. The results of the study are strengthened by the results of the t test using a significant level of 0.05 with db = N-1 which states that t $_{count}$ > t $_{table}$ is 2,506 > 1,686. So that H $_0$ is rejected and H $_a$ accepted. Thus, it was concluded that there was an effect of the make a match learning model on the learning outcomes of the area of square, rectangle and triangle for class IV SDN 48 Hulontalangi, Gorontalo City.

Keywords: Make a match learning model, learning outcomes, area of squares, rectangles and triangles

INTRODUCTION
Mathematics is one of the lessons in elementary school that plays an important role. Through learning mathematics, students can be trained to think logically, critically, systematically, creatively and can use mathematics in solving problems of daily life. In addition, students who lack mastery of learning mathematics in elementary school will experience learning difficulties in learning mathematics at the next level of education. Because elementary mathematics learning is closely related to learning at the next level of education. In all mathematics learning, it is known as learning that has abstract objects, of course teachers in carrying out teaching and learning activities need to work around it so that it is easily understood by students, including bridging student learning outcomes with learning models or other tools that can be used to make students get results. learn that much better. The success of learning can be determined by the students' mastery regarding the learning objectives. One mathematics especially the material square, rectangular and triangular require learning model to clarify what late, making it faster to be understood by students. Based on observations carried out by class IV SDN 48 Hulontalangi, it shows that the learning outcomes of the area of squares, rectangles and triangles are still much below the minimum completeness. Based on observations of students' daily test results, it is known that 17 or 42.5% of 40 students have difficulty working on the area of squares, rectangles and triangles.

The Nature of Squares, Rectangles and Triangles
1.Definition of Square, Rectangle and Triangle
According to Tombokan and Selpius (2014:155-158) squares, rectangles and triangles are as follows:
a) Square
A square is a flat shape in which all sides are the same length. A square has the formula Perimeter = 4 x Side Length and the formula Area = Side x Side. The following is an example of a picture of a square, where sides AB = BC = CD = DA have the same length.


b) Rectangle
A rectangle is a flat shape that has opposite sides that are the same length, and has four right angles. Rectangles have the formula Perimeter = 2 x (p + l) and the formula Area = Length x Width. The following is an example of an image of a rectangle, where sides AB = CD of the same length and BC = DA of the same length.
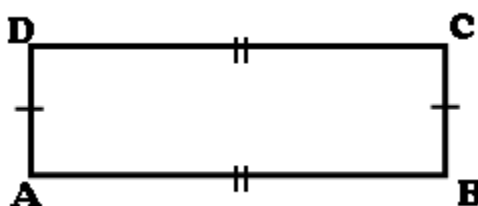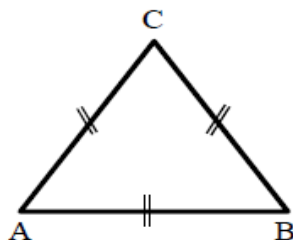

c) Triangle
A triangle is a flat shape formed by three non-linear points. A triangle has the formula Perimeter = a + b + c and the formula Area . The following is an example of an image of a triangle.
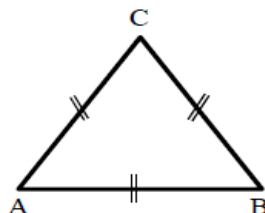

Triangles are classified according to their sides and angles. The following triangles according to their sides are equilateral triangles, isosceles triangles and arbitrary triangles.
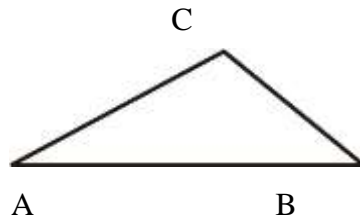1) **An** equilateral triangle is a triangle in which all three sides are the same length. Where side AB = BC = CA has the same side length.

2) **An** isosceles triangle is a triangle that has two equal sides. Where only sides AB = BC have equal sides.
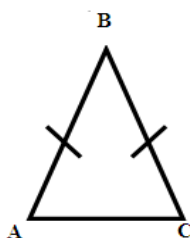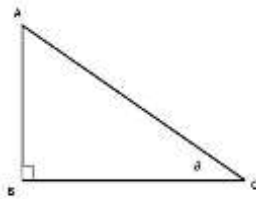
3) **An arbitrary** triangle is a triangle in which the three sides are different in length and the three angles are different in measure. Where side AB BC CA i.e. the three sides do not have the same length.
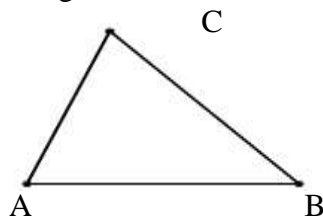

While the clarification of the triangle according to the angle is a right triangle, an acute triangle and an obtuse triangle.

1) **A right** triangle is a triangle in which one of the angles is a right angle or the measure of the angle is 90 $^{\circ}$.

2) **Triangle Taper** is a large triangular each corner is a large taper angle or angle between 0 $^{\circ}$ to 90 $^{\circ}$.

3) **An obtuse** triangle is a triangle in which one of the three angles is an obtuse angle or the measure of the angle is between 90 $^{\circ}$ and 180 $^{\circ}$.
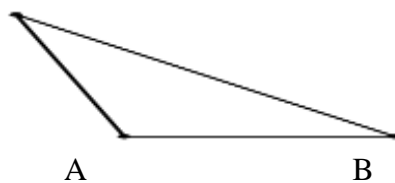
Area of Square, rectangle and triangle
1.   A square is a flat shape that has 4 sides that are the same length. Square has the formula Area = Side x Side. Then find the area of a square with a side length of 5 cm.
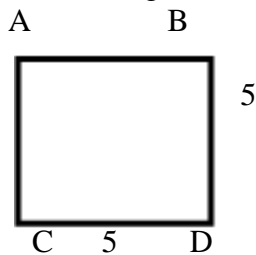
Dick :
S = 5 cm

Dit : … ?

Answer :
So, the area of the square ABCD is 25 cm ^{2} .

2.   Rectangle is a flat shape that has 2 pairs of equal sides, namely side AB = CD and side BC = DA. Rectangles have the formula Area = Length x Width. Then find the area of a rectangle with sides 10 cm long and 5 cm wide.

5cm

Dick :
Length = 10 cm
Width = 5 cm

Dit = … ?

Answer :
        So, the area of the rectangle ABCD is 50 cm ^{2}

3.   A triangle is a flat shape formed from three non-linear points. Triangles have the formula Area = Then find the area of a triangle with base = 12 cm and height = 6 cm.
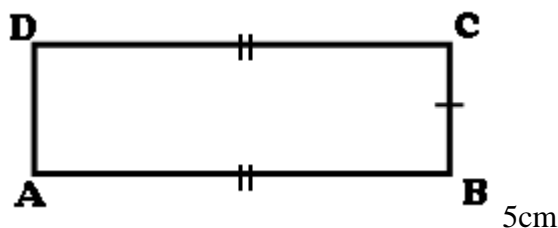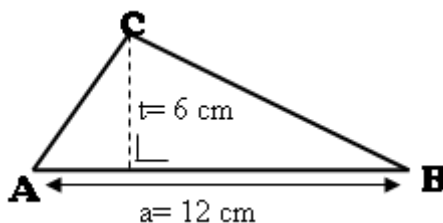

Dick :
base = 12 cm
Height = 6 cm

Dit : … ?
Answer :
So, the area of triangle ABCD is 36 cm ^{2} .

Understanding Learning Outcomes
Learning outcomes are the process of changing behavior in cognitive, affective and psychomotor aspects due to learning. According to Sudjana (in Umaya, 2015:10) learning outcomes are a change in behavior as a result of learning activities with a broader understanding covering the cognitive, affective and psychomotor fields. Meanwhile, according to Purwanto (2013: 46) learning outcomes are the realization of the achievement of educational goals, so that the measured learning outcomes are highly dependent on the educational goals. Based on the theoretical description above, it is concluded that learning outcomes are changes in the behavior, knowledge and skills of a student after they learn.

Factors Affecting Learning Outcomes
The factors that affect learning outcomes are of many types, but can be classified into two groups, namely internal factors and external factors. Internal factors are factors that exist within the individual who is learning, while external factors are factors that exist outside the individual who is learning according to Slameto , (2010)

Internal factors

These internal factors are divided into three factors, namely: physical factors, psychological factors, and fatigue factors.

1) Physical factors consist of: health factors and physical disability factors.
2) Psychological factors consist of: intelligence, attention, interest, talent, motive, maturity, and readiness.
3) Fatigue in a person, although difficult to separate, can be divided into two types, namely: physical fatigue and spiritual fatigue.

a. External factors

External factors that affect learning can be grouped into three factors, namely: family factors, school factors and community factors.

The result of learning mathematics is a change that occurs in students after carrying out a process of learning mathematics based on the results of learning carried out by teachers at school.

The Nature of the Make A Match Learning Model
1.Understanding the Make A Match Learning Model

Cooperative learning is a learning model that prioritizes cooperation among students who have diverse abilities to achieve learning objectives. Cooperative learning has several types, one of which is Make A Match type cooperative learning . Lie (2008: 56) states that the Make A Match learning model or exchanging pairs is a learning technique that gives students the opportunity to work together with other people. This technique can be used in all subjects and for all age levels of students. Based on the opinion above, it can be concluded that the Make A Match learning model is a Make A Match learning technique, which is a technique to find a partner while learning about a concept or topic in all subjects and grade levels.

The Purpose of the Make A Match Learning Model

Basically the cooperative learning model was developed to achieve three important learning objectives by Ibrahim and Isjoni (Layuhibu, 2016:10), namely:

1.Academic Learning Outcomes

In cooperative learning, although it includes a variety of social goals, it also improves student achievement or other academic tasks. The developers of this model have shown that the cooperative reward structure model has been able to increase students' scores on academic learning and change norms related to student learning outcomes.

2.Acceptance of Individual Differences

Another goal of cooperative learning is the wide acceptance of people who differ based on their race, culture, social class, abilities and disabilities. Cooperative learning provides opportunities for students from different backgrounds and conditions to work interdependently on academic tasks through cooperative rewards and will learn to respect each other.

3.Social Skill Development

The third important goal of cooperative learning is to teach students the skills of cooperation and collaboration. It is important for students to have social skills, because nowadays many young people are less capable in social skills.

Steps of the Make A Match Learning Model

According to Benny (Tiska Layuhibu, 2016:11), before the teacher uses the make a match model, the teacher must consider: (1) the indicators to be achieved, (2) the condition of the class which includes the number of students and the effectiveness of the room, (3) the allocation of time to be used. used and preparation time.

The above considerations are very necessary because the make a match model is not effective when used in classes with more than 40 students with narrow classroom conditions. Things that need to be prepared if learning is developed using the make a match model are cards. These cards consist of cards containing

questions and other cards containing answers to these questions (Suprijono, 2011 :94). The steps for the make a match type of cooperative learning model (make a pair) are:

1. The teacher divides the class into 3 groups
2. The first group is the card-carrying group containing the questions, the second group is the card-carrying group containing the answers, and the third group is the judging group
3. Arrange the position of the group into a U shape, try the first group and the second group to face each other
4. If each group has been in a predetermined place, the teacher blows the whistle as a sign for the first group and the second group to move to meet, looking for suitable question-answer pairs. Give them a chance to discuss. When discussing it would be nice if there was soft instrumental music to accompany the learning activities
5. The results of the discussion are marked by pairs between members of the question card group and answer card group members
6. Pairs that have been formed are required to show questions and answers to the assessor group. This group then reads in front of the class whether the question-answer pairs match (Suprijono, 2011: 58)

The make a match learning model can train students to participate actively in learning evenly and requires students to cooperate with group members so that responsibilities can be achieved, so that all students are active in the learning process.

Strengths and Weaknesses of the Make A Match Learning Model
The advantages and disadvantages of the make a match type of Cooperative Learning model according to Miftahul Huda (Anita Lie, 2008: 56) are :

1. The advantages of the make a match learning model include: (1) it can increase student learning activities, both cognitively and physically; (2) because there is an element of play, this method is fun; (3) improve students' understanding of the material being studied and can increase student learning motivation; (4) effective as a means to train students' courage to make presentations; and (5) effectively train students' discipline in respecting time to learn.
2. Weaknesses of make a match media include: (1) if this strategy is not well prepared, a lot of time will be wasted; (2) at the beginning of the application of the method, many students will be embarrassed to pair up with the opposite sex; (3) if the teacher does not direct the students well, many students will pay less attention to the pair presentation; (4) teachers must be careful and wise when punishing students who do not get a partner, because they can be embarrassed; and (5) using this method continuously will cause boredom .

Application of Make a Match Learning Model on Area of Square, Rectangle and Triangle
In this study, the researcher used two classes, namely the experimental class and the control class. In choosing the material to be applied to the experimental class and control class, preparation is needed and knowing how much time it takes to use conventional methods and make a match learning models. For example, in selecting the material for the area of squares, rectangles and triangles, the researcher first consulted with the subject teacher who was also the homeroom teacher for class IV at SDN 48 Hulontalangi , Gorontalo City , both the homeroom teacher for the experimental class and the control class .

The researcher asked the important points discussed on the material of square, rectangle and triangle area and how long it took in the learning process using conventional methods and make a match learning models. Furthermore, these points were raised in the class using conventional methods and classes using model make a match that will in class IV (experimental and control) with the learning time 3 x35 minutes. In addition to practice and practice using it, room preparation is also needed such as the layout of student seats, the necessary facilities such as LCDs, screens, tables and other equipment needed as preparation before presentation, in this case the researcher has first worked with school operators to provide equipment used during the learning process. After the planning was done, the researchers applied conventional methods in class IV [B] (control) and learning models in class IV [A] (experiments) on the area of squares, rectangles and triangles.

In the control class, the teacher taught as usual, using conventional methods or lectures in teaching the area of squares, rectangles and triangles. The first thing the teacher does is convey the topics and learning objectives that must be achieved by students. Prior to the application of conventional methods do teachers beforehand to explain the material area of the square, rectangle and triangle, sample images, formulas and how the work area

of the square, rectangle and triangle and calculate the length of time required in the activities call . After that the teacher explains the material that has been prepared previously, about the area of squares, rectangles and triangles. After explaining the material, the teacher sees whether the students have understood it or not, if not, the teacher conditions it by explaining the points they have not understood. If all students have understood then the teacher gives a test in the form of questions to find out the extent of their understanding of the material. In the experimental group, first teachers prepare such facilities and support for the implementation of learning activities that learning make a match. The teacher conveys the topic and learning objectives that must be achieved by students. Before the application of the make a match learning model is carried out , the teacher first provides an explanation of the square, rectangular and triangle material. As an example of the picture, the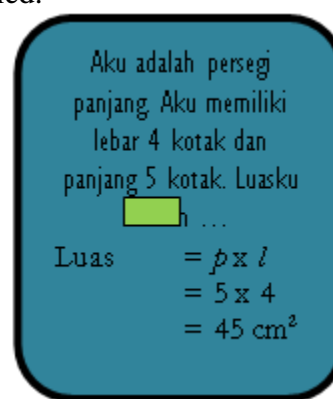 formula and the way the work area of the square, rectangle and triangle and calculate the length of time required in the activities call . After that the teacher explains the material that has been prepared previously, about the area of squares, rectangles and triangles.

After explaining the material, the teacher sees whether the students have understood it or not, if not, the teacher conditions it by explaining the points they have not understood. If all students understand, then the teacher applies the make a match learning model to find out the extent of their understanding of the material.

In the make a match learning model , the steps taken are: (1) the teacher and students make an agreement about the rules of time and punishment in the application of the make a match learning model . (3) Then the teacher divides the students into 2 groups, namely the question group and the answer group. (4) Next, the teacher prepares several cards containing several concepts or topics that are suitable for the review session , one part of the question card from the other part of the answer card. (5) Cards will be distributed according to groups, for example, the question group will get a card that says the question and the answer group will get a card with the answer. Then students have to think about the answers/questions from the cards they are holding. (6) Students will be given time to look for pairs of cards that match their cards according to a mutually agreed time. For example: a card holder that reads about the area of a square, rectangle and triangle will be paired with the result of the problem of the area of the square, rectangle and triangle. (7) Each student who can match his cards before the time limit is given points. The first student or partner who has found a pair of cards in his hand before the end of time will get more points. If the student cannot match the card held with his partner (cannot find the question card or answer card) he will get a mutually agreed penalty. For students who do not get pairs and answers will be given a punishment that was previously made before the game starts. (8) After the first application is complete, the group will be randomized and the cards can be shuffled again, this is because all students can play and cannot get question cards or answer cards. (9) The teacher together with the students make conclusions about the subject matter. After the game ends, the teacher and students conclude the lesson and re-evaluate the material that has been studied.

Sample Question Card   Sample Answer Card

RESEARCH METHODS

The method used in this study is a quasi- experimental method (quasi- experimental) where it is not possible to control or manipulate all relevant variables. The research design used is Pre-Experimental Design, namely a one-shoot case study. In this design, the two groups will be treated with different learning. After the learning

ends, they are given a final test (post test) using a test instrument. The research design used in this study is as follows:

Table 3.2 Research design

E	X $_1$	O $_2$
K	X $_2$	O $_4$

With the design above, in this study there is an experimental class (class IV ^{A}) and a control class (class IV^B). the experimental class is the class that is treated in the form of a make a match learning model and the control class is the class that is given conventional learning treatment. The implementation of the two learning models above begins with giving a pretest for the experimental class and control class in order to determine the students' initial abilities, then given treatment to the experimental class using the make a match learning model and the control class using conventional learning. The final activity of the study was in the form of giving a final test to see learning outcomes after being given treatment.

Based on the research design described earlier, it shows that there are two variables in this study, namely student learning outcomes on the material to calculate the area of squares, rectangles and triangles through the application of the make a match learning model at SDN 48 Hulontalangi, South City, Gorontalo City . In this study, these variables can be divided into X and Y . The variable (X) in this study is the influence of the make a match learning model . Meanwhile , the variable (Y) in this research is the result of studying the area of squares, rectangles and triangles. In this study, the population was all students of SDN 48 Hulontalangi, Gorontalo City, Class IV ^{A} (experimental class) and Class IV ^{B} (control class) totaling 40 students . The sample technique chosen is saturated sampling, which is taking data from the entire population to be sampled. So that in carrying out the study, the authors determined a sample of 2 classes, namely class IV ^{A} (experimental class) and IV ^{B} (control class) with a total of 40 students. To obtain data in the study, three techniques were used, namely observation, test and documentation. The data analysis technique used is a two-average difference test with a t-test because the population variance is unknown, the t-test can be done if normality is met, and variance homogeneity (Sugiono, 2015: 241)

RESEARCH RESULTS AND DISCUSSION

This research was conducted in order to determine learning make a match against learning outcomes spacious square, rectangular and triangular first grade V SDN 48 Hulontalangi City Gorontal o . In this study, many samples taken were 40 students, namely 20 for the experimental class and 20 students for the control class.

This research is a quasi- experimental research . because this study aims to determine the cause and effect and how big the effect of the cause and effect by giving certain treatment to the experimental class. The procedures in doing this study is to provide instruction using learning model make a match to determine the effect on learning outcomes adds calculate the area of a square, a rectangle and a triangle on the students.

The first meeting explained the teaching material related to calculating the area of squares, rectangles and triangles , then divided the students into 2 groups consisting of 10 students who were given a card with the questions/answers written on it. Each student thinks about the answer/question from the card they are holding. For pairs of students who can match their cards before the time limit are given points. The first student or partner who gets a partner before the time ends will get more points. If students cannot match their cards with their friends' cards (cannot find question cards or answer cards) they will get a mutually agreed penalty. At the second meeting the researchers gave final test questions according to the teaching material presented to measure the extent to which students were able to calculate the area of squares, rectangles and triangles . While in the untreated control group, the procedure in doing this research by providing conventional teaching, then given a final test at the next meeting. Results of the value of the final test this becomes the basis to determine the learning outcomes calculate the area of a square, a rectangle and a triangle on the students after the treatment in the experimental class and the absence of treatment in the lcontrol class. Treatment is given during class hours.

Based on data presentation and data analysis related to research, the results show that the data are normally distributed and homogeneous. Furthermore, the data were analyzed using the t test. Based on the calculation

of the t test, the results show that there is a significant difference between t_{count} and t_{table}. The t-$_{count}$ obtained from calculations using Microsoft Excel is 2.506 while the t-$_{table}$ is 1.686 at the significance level = 5%. concluded that there is the influence of the learning model make a match against learning outcomes spacious square, rectangular and triangular first grade V SDN 48 Hulontalangi City Gorontalo . This shows that the learning outcomes of the area of squares, rectangles and triangles applied to the students who apply the make a match learning model are quite satisfactory when compared to the learning outcomes of the area of squares, rectangles and triangles of students who use conventional learning. This is evidenced by the average value obtained at the end of the treatment, which is 73.2 for the experimental class and 55.7 for the control class in calculations using Microsoft Excel.

Because the learning outcomes of square, rectangular and triangular areas in fourth grade students and the average value of the experimental class with the make a match learning model are higher than conventional learning, learning with the make a match learning model can be used as an alternative in special teaching . The material is the area of square, rectangle and triangle class IV . This make a match learning model is in accordance with the characteristics of students as stated by Anita Lie (2008: 56) stating that the Make A Match type learning model or exchanging pairs is a learning technique that gives students the opportunity to work together with others. This technique can be used in all subjects and for all age levels of students.

Therefore, by applying the learning model make a match corresponding to the characteristics of the students can have a significant effect on learning outcomes spacious square, rectangular and triangular first grade V SDN 48 Hulontalangi City Gorontalo .

CONCLUSION

Based on the results of the discussion, it was concluded that there was an effect of the make a match learning model on student learning outcomes for the area of squares, rectangles and triangles for class IV SDN 48 Hulontalangi . This is evidenced by the calculation of the hypothesis using the t-test with a significance level of = 0.05, the value of t_{table} = 1.686 and t_{count} = 2.506 . Clear that the value of $t_{count} > t_{table}$ then H_o rejected and H_a accepted.

SUGGESTION

Based on the conclusions that have been described, there are several suggestions that can be put forward by researchers, including:

1. Students, the make a match learning model can be applied to improve student learning outcomes and to provide meaningful learning for students according to the real world context.
2. Master p use of total learning models make a match can be used as an alternative to provide variety in the learning process.
3. Schools, schools should seek training for teachers to support the implementation of learning so that learning objectives can be achieved in accordance with expectations.
4. Advanced researchers, who want to use the make a match learning model, can be followed up in the next research, taking into account the time allocation, facilities, and characteristics of students in the school.

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